

## REMARKS

### **I. INTRODUCTION**

Favorable reconsideration of this application, in light of the present amendments and following discussion, is respectfully requested.

### **II. STATUS OF THE CLAIMS**

Claims 39-46 are pending; Claims 1-38 are cancelled without prejudice or disclaimer; and Claims 39-46 are newly added herewith. As support for new Claims 39-46 may be found, for example, at pages 3-5 of the specification, it is respectfully submitted that no new matter is added by these claims.

### **III. SUMMARY OF THE OFFICE ACTION**

In the outstanding Office Action, Figures 1 and 2 were objected to; Claim 17 was objected to for an informality; Claims 1, 2, 5, 6, 10-12, 14, 15, 20, 21, 24, 25, 29-31, 33, and 34 under 35 U.S.C. § 102(b) as anticipated by *Hoffman* (U.S. Patent No. 5,273,033); Claims 1-13, 15, 16, 19-32, 34, 35, and 38 were rejected under 35 U.S.C. § 102(b) as anticipated by *Reiss* (U.S. Patent No. 5,324,317); and Claims 17, 18, 36, and 37 were rejected under 35 U.S.C. § 103 as unpatentable over *Reiss* in view of *Cywinski* (U.S. Patent No. 5,350,415).

### **IV. ARGUMENTS**

#### **A. Objections to the Drawings**

Applicants have provided herewith replacement Figures 1 and 2. As Figures 1 and 2 merely represent clearer versions of the originally filed Figures 1 and 2, it is respectfully submitted that no new matter is added by substitute Figures 1 and 2, and it is respectfully requested that these objections be withdrawn.

**B. Objections to the Claims**

In the outstanding Office Action, Claim 17 was objected to for a typographical informality. Claim 17 has been cancelled without prejudice or disclaimer by this amendment. Accordingly, it is respectfully submitted that this objection is now moot.

**C. Rejections Based on Prior Art**

Previously pending Claims 1-38 have been cancelled without prejudice or disclaimer by the present amendment. Accordingly, it is respectfully submitted that the rejections based on *Hoffman*, *Reiss*, and *Cywinski* have been obviated by this amendment. Nonetheless, to advance prosecution, the patentability of new Claims 39-46 will be discussed below with regard to the applied references.

Additionally, it is respectfully submitted that there is no basis in the teachings of either *Reiss* or *Cywinski* to support the combination proposed in the outstanding Office Action. Certainly, the outstanding Office Action does not cite to any specific teachings in either *Reiss* or *Cywinski* to support the applied combination. Accordingly, it is respectfully submitted that the combination of *Reiss* with *Cywinski* is the result of hindsight reconstruction in view of the teachings of the present specification, and is improper.

**D. Newly Added Claims 39-46**

Newly added independent Claim 39, from which Claims 40-46 depend, recites (in part) that “the electrical stimulation is adapted to mimic a sequencing of at least two muscle groups proximate to the body segment.”

As described in the specification, for example, at pages 4-5, electrodes 404 promote electrical stimulation of the surrounding musculature of the joint 402 of the respective body segment 400. The electrodes 404 may be placed at predetermined locations to mimic the natural

movement pattern of the affected joint 402. According to the claimed invention, it is possible to mimic a natural functioning of the affected joint without the wear and tear commonly associated with physical activity.

Neither *Hoffman* nor *Reiss* discloses or suggests mimicking sequencing of at least two muscle groups, as recited in Claim 39. Similarly, *Cywinski* does not disclose or suggest these claimed features.

*Cywinski* relates to a device for trophic stimulation of muscles. *Cywinski* describes stimulating motor unit action potentials (MUAPs), which are individual groups of muscle cells that contract together.<sup>1</sup> However, *Cywinski* does not disclose or suggest “to mimic a sequencing of at least two muscle groups proximate to the body segment,” as recited in Claim 39.

In more detail, *Cywinski* teaches away from the claimed features, because *Cywinski* describes that it is preferable to avoid contraction of the muscle.<sup>2</sup> *Cywinski* describes producing varying pulse pattern signals similar in character to those recorded in live experiments as MUAPs.<sup>3</sup> The mean rate of firing in most MUAPs is far below the stimulation rate necessary to achieve fused and forceful contraction of a muscle.<sup>4</sup>

Accordingly, as none of *Hoffman*, *Reiss*, or *Cywinski* discloses or suggests the features recited in Claim 39, it is respectfully submitted that Claim 39 patentably distinguishes over each of these three references, either alone or in combination. Likewise, Claims 40-46 are believed to patentably distinguish over *Hoffman*, *Reiss*, or *Cywinski* for at least the reasons set forth for independent Claim 39.

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<sup>1</sup> *Cywinski*, col. 2, lines 30-35.

<sup>2</sup> *Id.* at col. 2.

<sup>3</sup> *Id.* at col. 5, lines 48-50.

<sup>4</sup> *Id.* at col. 2, lines 36-43.

**V. CONCLUSION**

Consequently, in view of the foregoing discussion and present amendments, it is respectfully submitted that this application is in condition for allowance. An early and favorable action is therefore respectfully requested.

Respectfully submitted,

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IN THE DRAWINGS

Attached please find Replacement Drawing Sheet amending Figures 1 and 2 as requested in the Office Communication of January 18, 2006.

Attachment: Replacement Drawing Sheet (1)